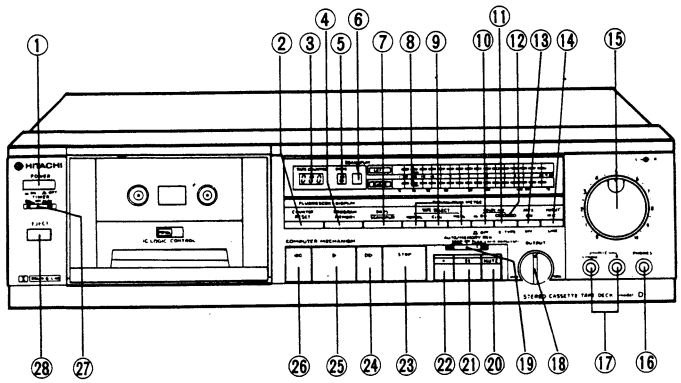
HITACHI

SERVICE MANUAL

TK **No. 1628E**

D-E57

(U, C, FS, BS, AU, W)



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KEY TO ILLUSTRATIONS

① POWER (MAINS) SWITCH
② COUNTER RESET SWITCH
③ TAPE COUNTER
④ PROGRAM MEMORY SWITCH
⑤ DRPS INDICATOR
⑥ SCANAPLAY INDICATOR
⑦ DRPS/SCANAPLAY SWITCH
⑧ DIGITAL PEAK METER
⑨ TAPE SELECT SWITCHES
⑩ DOLBY NR SWITCH
⑪ DOLBY B/C NR CHANGE OVER SWITCH
⑫ DOLBY C NR INDICATOR
⑬ MPX SWITCH
⑭ INPUT SELECT SWITCH
⑮ RECORDING LEVEL CONTROLS
⑯ HEADPHONE SOCKET
⑰ MICROPHONE SOCKETS
⑱ OUTPUT LEVEL CONTROL
⑲ AUTO/MEMORY REWIND SWITCH
⑳ REC. MUTE BUTTON
㉑ PAUSE BUTTON
㉒ RECORD BUTTON
㉓ STOP BUTTON
㉔ FAST FORWARD BUTTON
㉕ PLAYBACK BUTTON
㉖ REWIND BUTTON
㉗ TIMER SWITCH
㉘ EJECT BUTTON

SAFETY PRECAUTION

The following precautions should be observed when servicing.

1. Since many parts in the unit have special safety related characteristics, always use genuine Hitachi's replacement parts. Especially critical parts in the power circuit block should not be replaced with other makes.
   Critical parts are marked with ⚠ in the schematic diagram and circuit board diagram.
2. Before returning a repaired unit to the customer, the service technician must thoroughly test the unit to ascertain that it is completely safe to operate without danger of electrical shock.

SPECIFICATIONS AND PARTS ARE SUBJECT TO CHANGE FOR IMPROVEMENT

STEREO CASSETTE TAPE DECK

Sept. 1981 **TOKAI WORKS**

SPECIFICATIONS

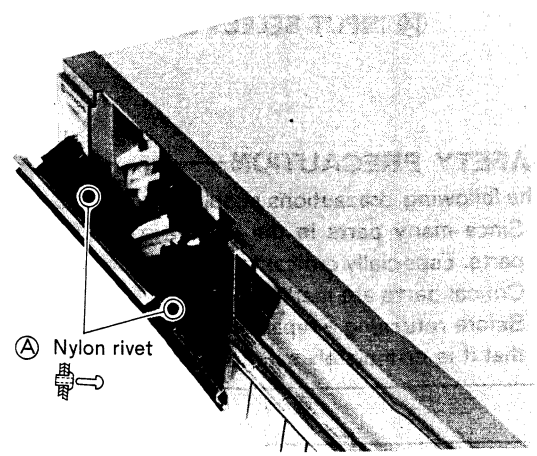
Semi-conductors :	
Module :	3
ICs :	12
Transistors :	44
Diodes :	34
LEDs :	4
Fluorescent display :	1
Track System :	4 track 2 channel stereo
Tape :	Cassette tape (C-30, 60, 90)
Tape Speed :	4.75cm/s
Recording System and Bias Frequency :	AC bias, 85 kHz
Erasing System :	AC erase
Erase Ratio :	65 dB or more (at 1 kHz)
Frequency Response :	
NOR :	20 Hz～17 kHz
	30 Hz～15 kHz (±3 dB)
	30 Hz～15 kHz*
CrO_2 :	20 Hz～18 kHz
	30 Hz～16 kHz (±3 dB)
	30 Hz～16 kHz*
METAL :	20 Hz～18 kHz
	30 Hz～17 kHz (±3 dB)
	30 Hz～17 kHz*
S/N (Signal to Noise Ratio) :	
Dolby NR B ON :	67 dB (A weighted, Reference 3% T.H.D. Metal Tape)
	67 dB*
Dolby NR C ON :	73 dB (A weighted, Reference 3% T.H.D. Metal Tape)
	73 dB*
Dolby NR OFF :	59 dB (A weighted, Reference 3% T.H.D. Metal Tape)
	59 dB*
Wow and Flutter :	0.04% (WRMS)
	0.13%*
Input Sensitivity and Impedance :	
Microphone :	0.42mV, 300 ohms～5k ohms
Line in :	100mV, 50k ohms or more
Output Level :	550mV
Output Load Impedance :	
Line out :	50k ohms or more
Headphone :	8 ohms～2k ohms
Distortion :	1.0% (1 kHz, 160nw/m)
Crosstalk :	60 dB or more (at 1 kHz)
Channel Separation :	30 dB or more (at 1 kHz)
Power Supply :	AC 120V, 60 Hz (U, C)
	AC 220V, 50 Hz (FS)
	AC 240V, 50 Hz (BS, AU)
	AC 100–110V, 115–127V, 200–220V, 230–250V, 50/60 Hz (W)
Power Consumption :	22W
Dimensions :	110 (H) × 435 (W) × 290 (D) mm
Weight :	4.6 kg
Motor :	Electronically controlled DC motor
Heads :	Metal SL Record/playback head
	Three-gap ferrite Erase head

* According to DIN 45 500

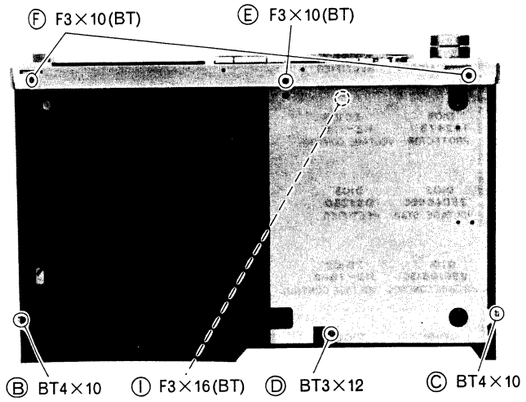
DISASSEMBLY

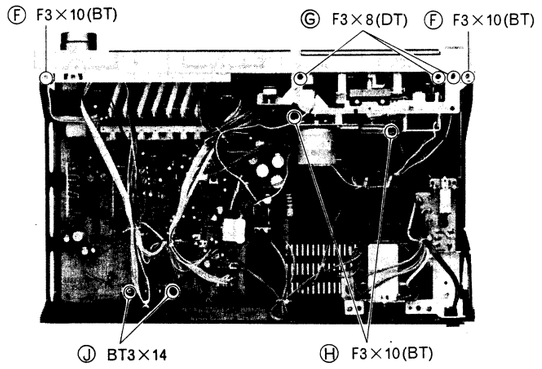
1. **Cassette door**

Depress the eject button to open the cassette door. Remove Ⓐ (two) nylon rivets and remove the cassette door.



2. **Top cover**
   Remove Ⓑ and Ⓒ (two) screws.
3. **Bottom cover**
   Remove Ⓒ , Ⓓ and Ⓔ (three) screws.
4. **Front panel**
   After removing the output level control knob, remove Ⓔ , Ⓕ and Ⓖ (eight) screws. When removing the front panel, be careful that the lead wires are not damaged.
5. **Cassette chassis**
   After removing the front panel, remove Ⓗ (two) screws.
6. **Main PC board**
   After removing the bottom cover and front panel, remove Ⓘ and Ⓙ (three) screws.





ADJUSTMENTS

Perform the following adjustments in the sequence stated after cleaning the head, pressure roller and capstan with a head cleaning stick moisted in alcohol. Also, unless specially indicated otherwise, set the switches and controls to the positions indicated in the table.

Symbol No.	Switches and Controls	Position	Symbol No.	Switches and Controls	Position
S2	Input select switch	LINE	RV1	Recording level control	Max.
S6–S8	Tape select switches	NORMAL	RV2	Output level control	Max.
S5	Dolby NR switch	OFF			

* According to DIN45 500

Item	Adjustments	Measuring Instrument and Connection			Check Tape	Mode	Adjusted Position	Adjusted Value	Remarks
		Measuring Instrument	Input Terminal	Output Terminal					
1	Tape speed	· Frequency counter	——	LINE OUT	MTT-111, 3000 Hz (3150 Hz*)	Playback	Semi-variable resistor in the motor	3000Hz $^{+30}_{-10}$ Hz (3150 Hz*)	See Note 1
2	Head azimuth	· VTVM	——	LINE OUT	MTT-316, 12.5 kHz	Playback	Azimuth adjusting screw	Output Max.	See Note 2
3	Playback gain	· VTVM	——	TP1L, R	MTT-150, 400 Hz, 20m Maxwell	Playback	RT1L, R	580mV	See Note 3
4	Digital peak meter	· Audio oscillator (400 Hz) · Attenuator · VTVM	LINE IN	TP1L, R	——	Record	RT2L, R	0 dB lights up	See Note 4

Item		Adjustments	Measuring Instrument and Connection			Check Tape	Mode	Adjusted Position	Adjusted Value	Remarks
			Measuring Instrument	Input Terminal	Output Terminal					
5	(1)	Bias frequency	Set the tape select switches (S6–8) to the Metal position.							See Note 5
	(2)		· Frequency counter	——	TP2L, R	——	Record	L7	85±0.5 kHz	
6	(1)	Bias current	Set RT3L, R to the center.							See Note 6
	(2)		· Audio oscillator (1.2 kHz/ 12 kHz, 0 dB–20 dB) · Attenuator · VTVM	LINE IN	LINE OUT	Normal tape	Record/ playback	RT4L, R	Output difference within ±1 dB	
7		Record/ playback output level	· Audio oscillator (400 Hz) · VTVM	LINE IN	LINE OUT	Normal tape	Record/ playback	RT3L, R	0 dB ±0.5 dB	See Note 7

Note :

1. Adjust within 30 sec. after heat-running for more than 20 minutes.
2. When the maximum values of both channels are different, adjust to the maximum value of the L channel. In this case, the difference between the maximum values of both channels should be within 2 dB.
3. Playback a test tape (MTT-150, 400 Hz 20m Maxwell) and adjust RT1L, R so that the level of TP1L, R becomes 580mV.
4. 1) Feed a 400 Hz signal to the LINE IN jacks in the recording mode and adjust the audio oscillator output so that the level of TP1L, R becomes 580mV. Then, adjust the attenuator to lower the output level by 0.5 dB.
   2) Adjust RT2L, R so that the 0 dB indicators of the digital peak meter lights up.
5. Set the tape select switches (S6–8) to the Metal position in the recording mode. Adjust L7 so that the bias frequency of TP2L, R becomes 85±0.5 kHz.
6. 1) Set RT3L, R to the center.
   2) Feed a 1.2 kHz signal to the LINE IN jacks in the recording mode and adjust the audio oscillator output so that the digital peak meter indicates 0 dB. Then, adjust the attenuator to lower the output level by 20 dB.
   3) Record the signal on Normal tape with the conditions of item 2), then continue to record with the audio oscillator frequency set to 12 kHz.
   4) Playback the recorded signal and adjust RT4L, R so that the output level difference between two frequencies is within ±1 dB.
7. 1) Feed a 400 Hz signal to the LINE IN jacks in the recording mode and adjust the audio oscillator output so that the digital peak meter indicates 0 dB.
   2) Record the signal on Normal tape with the conditions of item 1).
   3) Playback the recorded signal and adjust RT3L, R so that the digital peak meter indicates 0 dB.

Item		Adjustments	Measuring Instrument and Connection: Measuring Instrument	Input Terminal	Output Terminal	Check Tape	Mode	Adjusted Position	Adjusted Value	Remarks
5	(1)	Bias frequency	Set the tape select switches (S6–8) to the Metal position.							See Note 5
	(2)		· Frequency counter	——	TP2L, R	——	Record	L7	85±0.5 kHz	
6	(1)	Bias current	Set RT3L, R to the center.							See Note 6
	(2)		· Audio oscillator (1.2kHz/ 12kHz, 0dB–20dB) · Attenuator · VTVM	LINE IN	LINE OUT	Normal tape	Record/ playback	RT4L, R	Output difference within ±1 dB	
7		Record/ playback output level	· Audio oscillator (400 Hz) · VTVM	LINE IN	LINE OUT	Normal tape	Record/ playback	RT3L, R	0 dB ±0.5 dB	See Note 7

Note :

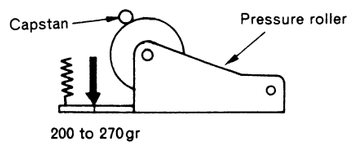
1. Adjust within 30 sec. after heat-running for more than 20 minutes.
2. When the maximum values of both channels are different, adjust to the maximum value of the L channel. In this case, the difference between the maximum values of both channels should be within 2 dB.
3. Playback a test tape (MTT-150, 400 Hz 20m Maxwell) and adjust RT1L, R so that the level of TP1L, R becomes 580mV.
4. 1) Feed a 400 Hz signal to the LINE IN jacks in the recording mode and adjust the audio oscillator output so that the level of TP1L, R becomes 580mV. Then, adjust the attenuator to lower the output level by 0.5 dB.
   2) Adjust RT2L, R so that the 0 dB indicators of the digital peak meter lights up.
5. Set the tape select switches (S6–8) to the Metal position in the recording mode. Adjust L7 so that the bias frequency of TP2L, R becomes 85±0.5 kHz.
6. 1) Set RT3L, R to the center.
   2) Feed a 1.2 kHz signal to the LINE IN jacks in the recording mode and adjust the audio oscillator output so that the digital peak meter indicates 0 dB. Then, adjust the attenuator to lower the output level by 20 dB.
   3) Record the signal on Normal tape with the conditions of item 2), then continue to record with the audio oscillator frequency set to 12 kHz.
   4) Playback the recorded signal and adjust RT4L, R so that the output level difference between two frequencies is within ±1 dB.
7. 1) Feed a 400 Hz signal to the LINE IN jacks in the recording mode and adjust the audio oscillator output so that the digital peak meter indicates 0 dB.
   2) Record the signal on Normal tape with the conditions of item 1).
   3) Playback the recorded signal and adjust RT3L, R so that the digital peak meter indicates 0 dB.

INSPECTION OF MECHANISM

Check Item			Reference Value	Remarks
1	Pressure of pressure roller		200 to 270g	Note 1
2	Torque	Take-up	35 to 65g·cm	Measure in playback mode
		Fast forward	75 to 110g·cm	Measure in fast forward mode
		Rewind	75 to 110g·cm	Measure in rewind mode
3	Back-tension	Take-up turntable	1.7 to 5g·cm	Measure in playback mode
		Supply turntable	2.5 to 4.0g·cm	
4	Brake-torque	Take-up turntable	50 to 100g·cm	Measure in stop mode
		Supply turntable		
5	Head plate return strength		200g or more	Measure in stop mode
6	Play lock allowance		300g or more	Measure in playback mode

Note 1. Pressure of pressure roller

Set this unit in the playback mode and press the pressure roller in the direction of the arrow using a fan type tension gauge, and measure the pressure when the pressure roller is released from the capstan.



LUBRICATIONS

Lubricate one or two drops of oil to rotating point or lubricate grease to sliding point.

Lubricate the respective parts listed once every 1000 hours or once a year under normal conditions of use.

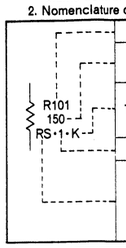
Avoid oiling them excessively, or rotation may become irregular because of oil splashes.

Lubrication		Oil or Grease
Rotary section	Metal and metal	Pan motor oil (10W-40)
	Mold and metal	Sonic slider oil (#1600)
Sliding section	Metal and metal	Hitasol (MO-138)
	Mold and mold Mold and metal	White grease (FL-LUBE-A)
Spring resonance prevention		Froil (GB-TS-1)

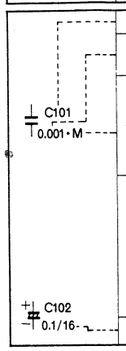
SCHEMATIC DIAGRAM

Note

1. Voltage measured at base of chassis with minimum volume control and no signal.
2. Nomenclature of Resistors and Capacitors.



	Circuit No.
Value	No indicated Ω(Ohm) M : 1000 kΩ
Tolerance	No indicated ±5% K : ±10% M : ±20%
Wattage	No indicated ¼W
Sort	No indicated Carbon film RC : Composition RW : Wire wound RS : Oxide metal film RN : Fixed metal film



	Circuit No.	
Value	No indicated μF P : PF	
Tolerance	No indicated ±10% J : ± 5% M : ±20% Z : +80%, −20% D : ±0.5pF C : ±0.25pF	
Sort		Ceramic
		Electrolitic
		Mylar
		Polyester
		Styrol
Voltage	No indicated 50WV	

3. Be sure to make your orders of resistors and capacitors with value, voltage, tolerance and sort.
4. When replacing capacitors marked with ※, use specified ones stated on parts list since required temperature characteristics.

ZD3 RD5.1E PROTECTOR
Q1L, Q2L 2SC1845FE SWITCHING (PLAYBACK)
Q23L 2SC1740LN MIC. AMP.
Q3L 2SC2603FG MUTING (REC)
Q24L 2SC458CD MUTING (PLAYBACK)
Q4L, Q5L 2SC1740LN PRE AMP
D3, D2 1S2473 SWITCHING
Q19 2SC458CD SWITCHING (REC)
MODIL TA3011D DOLBY B,C NR
IC1 ~ 4 HD14066BP(1/2) REC./P.B. SELECTION
Q12L 2SC458CD REC. AMP
Q11L 2SD467BC MUTING (PLAYBACK)
Q10 2SC458CD SWITCHING (REC)
IC5 NJM4558D(1/2) LINE AMP

Q17 2SD667C BIAS OSC
Q16 2SD468BC VOLTAGE STAB.
Q18 2SA992FE SWITCHING (REC)
ZD2 HZ-7A VOLTAGE STAB.
Q15 2SC2603FG SWITCHING
Q14 2SC458CD SWITCHING
RV1 20K(A) RECORD LEVEL
IC8 BA335 INTER PROGRAM GAP DETECTION AMP
Q13 2SC458CD MUTING
D206 1S2473 PROTECTOR
D203, 204 1S2473 PROTECTOR
D207 1S2473 PROTECTOR
IC201 μPD554C-079 FUNCTION CONTROL
D202 1S2473 PROTECTOR
Q204 2SC458CD SWITCHING (SEARCH)
Q205 2SC458CD SWITCHING
D201 1S2473 PROTECTOR
D5 1S2473 RECTIFIER
Q9 2SC458CD SWITCHING (REC, P.B., REC PAUSE)

IND301 LD8231 FLUORESCENT DISPLAY
ZD301 RD5.1E VOLTAGE STAB. (FILAMENT VOLTAGE)
IC301 μPD554C-082 MICROPROCESSOR FOR COUNTER
D301, 302, 303 1S2473HJ SWITCHING
LED2 SLR54RC
Q301 2SD642RS SWITCHING (DRPS PRESET)
LED1, 3 SLR54GC

D3, D2 IS2473 SWITCHING

Q19 2SC458CD SWITCHING (REC)

MOD1L TA3011D DOLBY B,C NR

IC8 BA335 INTER PROGRAM GAP DETECTION AMP

IC1~4 HD14066BP (1/2) REC./P.B. SELECTION

Q13 2SC458CD MUTING

D206 IS2473 PROTECTOR

Q12L 2SC458CD REC. AMP

D203, 204 IS2473 PROTECTOR

Q11L 2SD467BC MUTING (PLAYBACK)

D207 IS2473 PROTECTOR

Q10 2SC458CD SWITCHING (REC)

IC201 μPD554C-079 FUNCTION CONTROL

D202 IS2473 PROTECTOR

Q204 2SC458CD SWITCHING (SEARCH)

Q205 2SC458CD SWITCHING

D201 IS2473 PROTECTOR

D5 IS2473 RECTIFIER

IC5 NJM4558D(1/2) LINE AMP

Q9 2SC458CD SWITCHING (REC, P.B., REC PAUSE)

Q7L 2SC458CD SWITCHING

ZD1 RD5.1E LEVEL SHIFT

Q8L 2SD467BC MUTING (REC)

Q206 2SC458CD SWITCHING (SCAN&PLAY)

IC6 NJM4558D(1/2) METER AMP

Q202, 203 2SD947 FLIP-FLOP

D1L IS2473 RECTIFIER

MOD2L LT-1037 DIGITAL PEAK METER

ZD201 HZ-7A LEVEL SHIFT

IC9 PST515 TAPE END PULSE GENERATION

D110 1S2076A PROTECTOR

Q103 2SD947 SOLENOID DRIVE

IC7 μPC4557C HEADPHONE AMP

LED4 TLG123A

Q104 2SD947 SOLENOID DRIVE

Q105 2SD947 SOLENOID DRIVE

D108 DS135D RECTIFIER

D107 DS135D RECTIFIER

D106 DS135D RECTIFIER

D104 DS135D RECTIFIER

D105 1S2473 PROTECTOR

ZD103 HZ-11B VOLTAGE CONTROL

Q102 2SD468BC VOLTAGE STAB.

D103 DS135D RECTIFIER

Q101 2SC1061SC VOLTAGE CONTROL

ZD102 HZ-15-3 VOLTAGE CONTROL

ZD101 HZ-15-3 VOLTAGE STAB.

D101 DS135D RECTIFIER

D102 DS135D RECTIFIER

D111 DS135D RECTIFIER

D109 1S2076A PROTECTOR

IC 301 μPD554C-082 MICROPROCESSOR FOR COUNTER

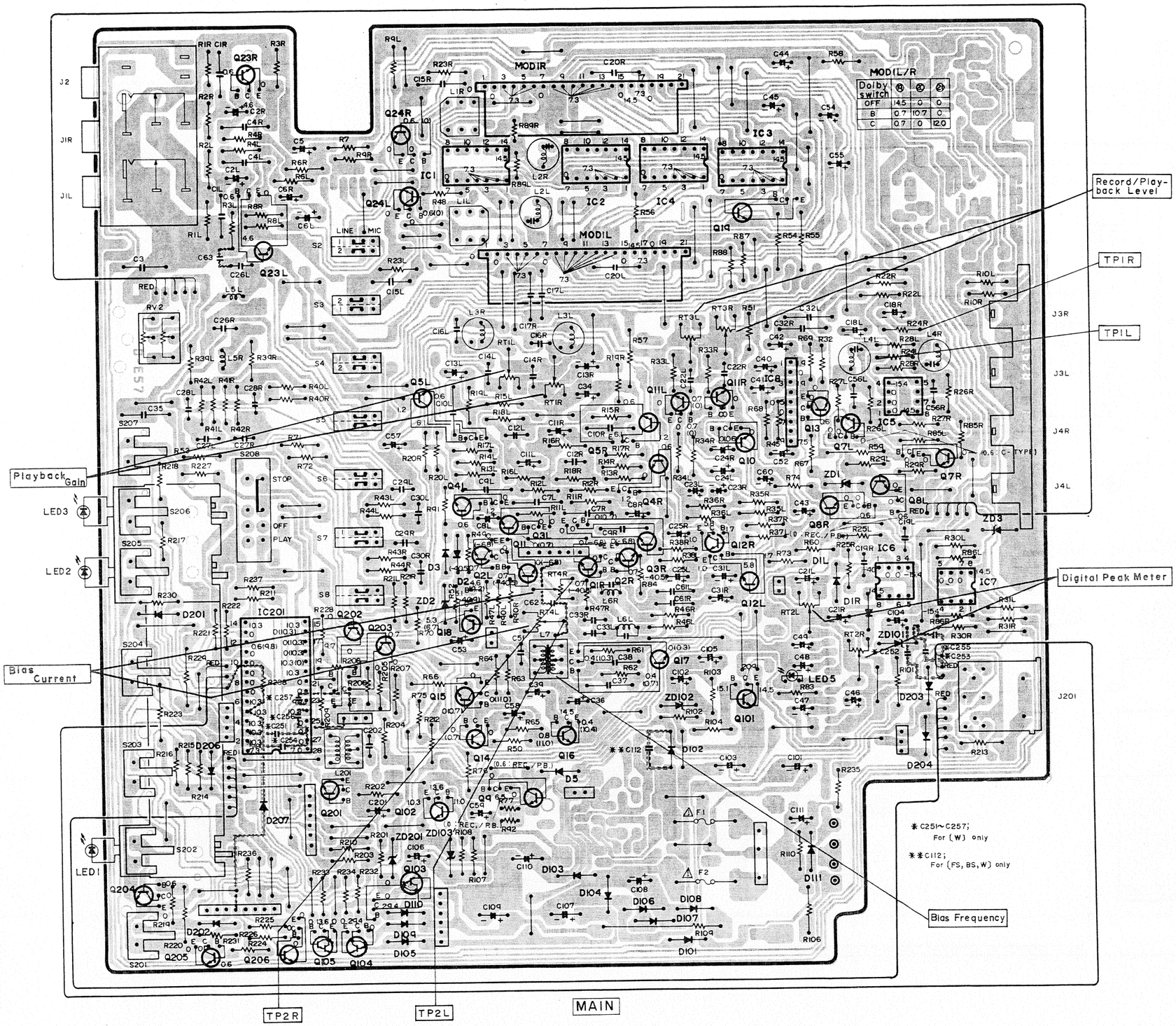
D301, 302, 303 IS2473HJ SWITCHING

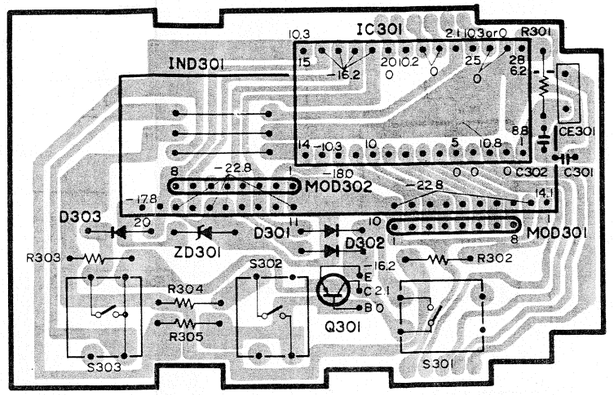
LED2 SLR54RC

Q301 2SD642RS SWITCHING (DRPS PRESET)

LED1, 3 SLR546C

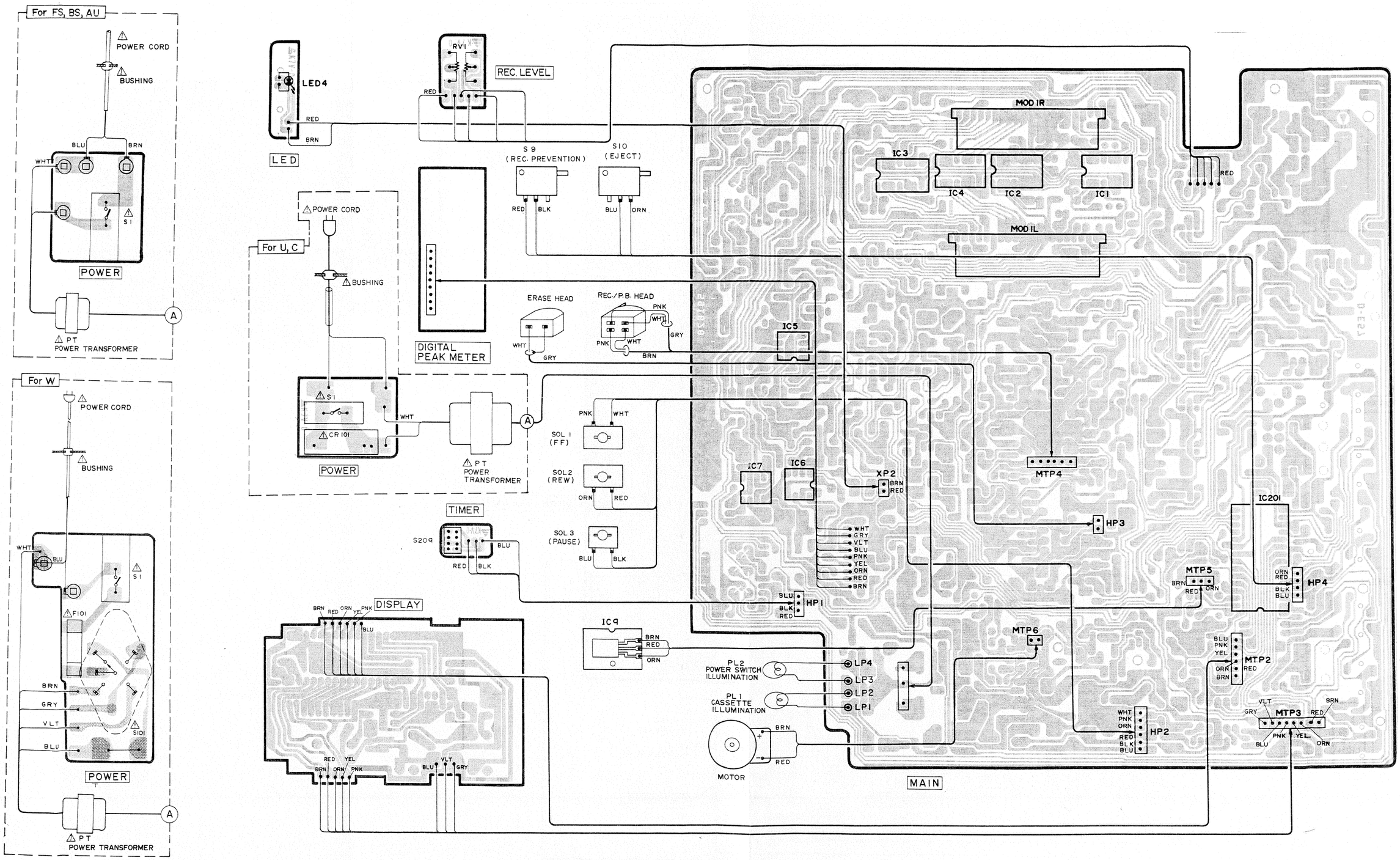
CIRCUIT BOARD DIAGRAM



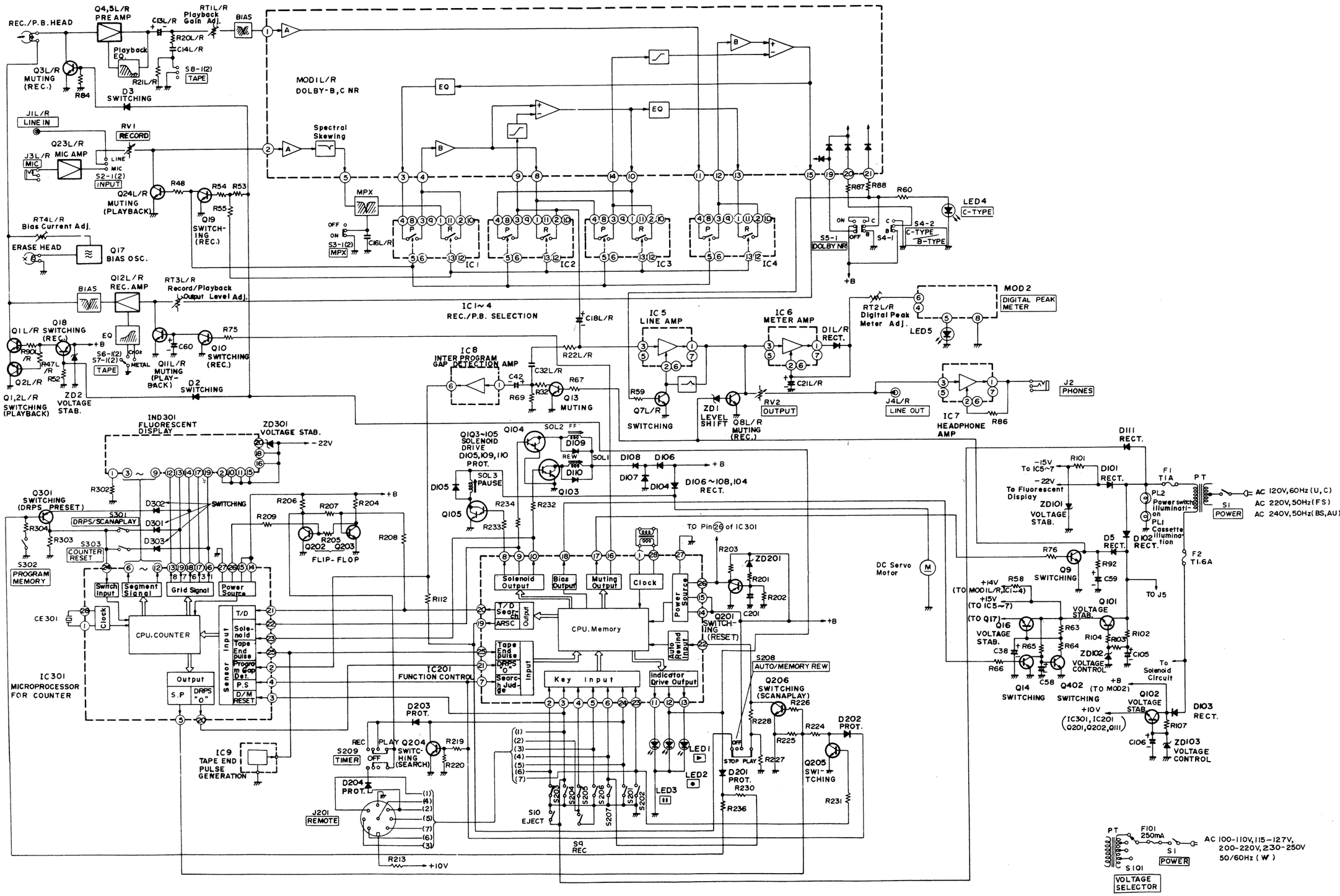


DISPLAY

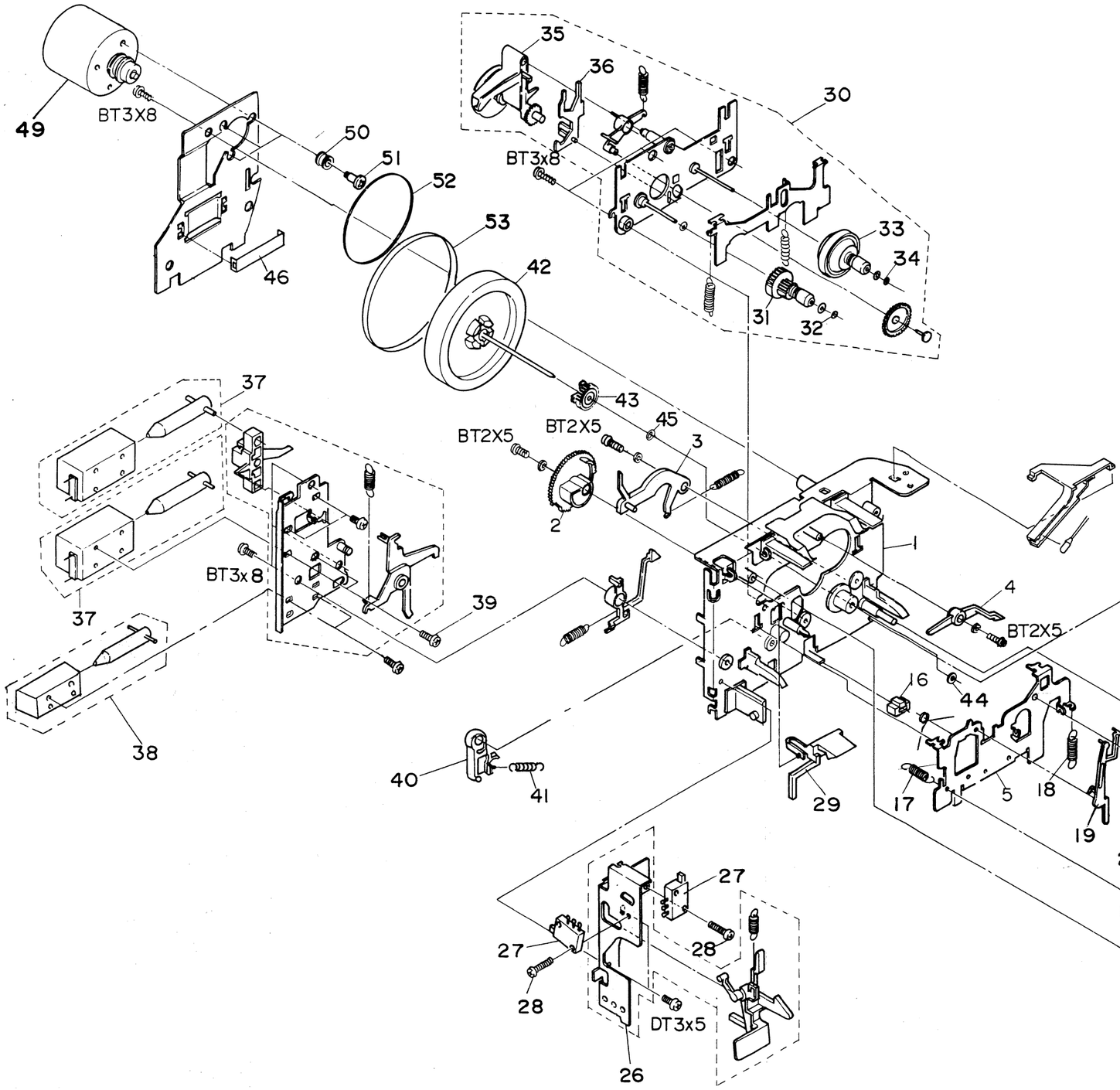
WIRING DIAGRAM



BLOCK DIAGRAM



EXPLODED VIEW (Mechanism-FL-12G)



	Type of head				
P	Pan head screw		BT	Binding head tapping screw	
F	Flat countersunk head screw		BL	Bolt	
B	Binding head screw		W	Washer	
T	Round head tapping screw		E	"E" ring	
	Length (L mm)				
	Diameter (D mm)				

P3×8 W2.6

When ordering hardware excluding stated on these lists, be sure to make your orders with type and size.

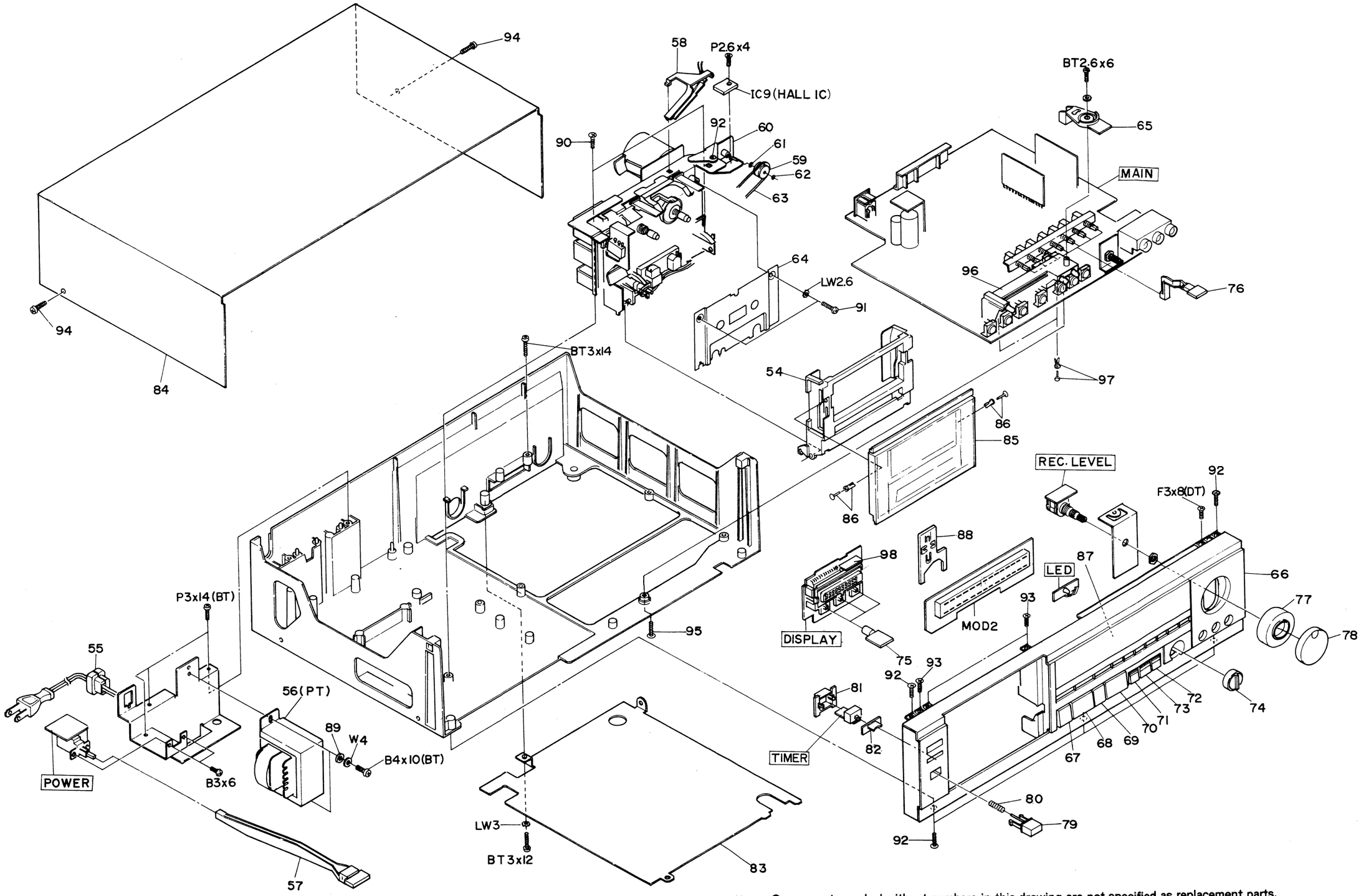
Note : Components marked without numbers in this drawing are not specified as replacement parts.

REPLACEMENT PARTS LIST

SYMBOL-NO	P-NO	DESCRIPTION
		FOR CASSETTE DECK ASSEMBLY (FL-12G)
1	7341353	CHASSIS BASE HOLDER ASSEMBLY
2	6430886	PLAY GEAR
3	6761783	PLAY ARM
4	6761821	PICK UP ARM
5	7339091	HEAD PLATE ASSEMBLY
6	5445351	ERASE HEAD
7	5449041	RECORD PLAYBACK HEAD
8	6761753	HEAD PLATE
9	7768182	SPACER
10	7775211	SPECIAL SCREW
11	6321733	HEAD SPRING C
12	7771441	WASHER - 2 MMD
13	7768181	HEAD SPACER
14	7771442	WASHER-2MMD
15	7771444	WASHER-2MMD
16	6581042	RUBBER FOR RECORD PREVENTION
17	6302375	SPRING
18	6301022	SPRING
19	6761742	REWIND ARM
20	6761707	TAKE UP IDLER ASSEMBLY
21	6320578	SPRING FOR TAKE UP IDLER
22	6990651	INSULATION PLATE FOR HEAD
23	7330581	PRESSURE ROLLER ARM ASSEMBLY
24	6301361	SPRING
25	7333931	PAUSE ARM
26	7330663	EJECT HOLDER ASSEMBLY
27	5633361	PUSH SWITCH
28	0671310	DT SCREW-2.6MMDX10MM
29	6761814	RECORD PREVENTION ARM
30	6761696	REEL BASE ASSEMBLY
31	6414202	TURNTABLE ASSEMBLY (SUPPLY)
32	7786745	POLYESTER WASHER
33	6414213	TURNTABLE ASSEMBLY (TAKE UP)
34	7786745	POLYESTER WASHER
35	6761672	FF/REWIND ARM ASSEMBLY
36	6761732	SELECT SLIDER
37	5642921	DC SOLENOID
38	5642931	DC SOLENOID
39	8741404	BIND SCREW-3MMDX4MM
40	6762463	SEARCH ARM
41	6300597	SPRING
42	6373751	FLYWHEEL ASSEMBLY
43	6430932	FLYWHEEL GEAR
44	7786623	POLY SLIDER WASHER
45	7772623	SPRING
46	6534162	FLYWHEEL SUPPORT SPRING
47	6763431	DAMPER ASSEMBLY
48	6301723	SPRING FOR EJECT SLIDER
49	5576765	DC MOTOR ASSEMBLY (CAPSTAN)
50	6589591	RUBBER PLATE
51	7539007	SPECIAL SCREW
52	6355193	BELT
53	6357301	FLYWHEEL BELT
54	6768911	CASSETTE HOLDER
		MISCELLANEOUS
⚠ 55	6794401	BUSHING (U,C,FS,AU,W)
	6794411	BUSHING (BS)
⚠ 56(PT)	5213061	POWER TRANSFORMER (U,C)
	5213064	POWER TRANSFORMER (W)
	5213062	POWER TRANSFORMER (FS)
	5213063	POWER TRANSFORMER (BS,AU)
57	6291822	PUSH BUTTON ASSEMBLY (POWER) (U,C)
	6291823	PUSH BUTTON ASSEMBLY (POWER) (FS,BS, AU,W)
58	6761962	LAMP HOLDER
59	6422541	COUNTER PULLEY ASSEMBLY
60	7341143	PULLEY BRACKET ASSEMBLY
61	7778856	POLYESTER WASHER
62	7786115	POLYESTER WASHER
63	6354471	COUNTER BELT
64	7341181	CASSETTE METAL ASSEMBLY
65	6291793	SLIDE KNOB (AUTO REWIND)
66	6224952	FRONT PANEL ASSEMBLY
67	6291441	FUNCTION BUTTON (REW)
68	6291451	FUNCTION BUTTON (PLAY)
69	6291442	FUNCTION BUTTON (F.F)
70	6291461	FUNCTION BUTTON (STOP)
71	6054651	FUNCTION BUTTON (REC)
72	6054653	FUNCTION BUTTON (REC MUTE)
73	6291481	FUNCTION BUTTON (PAUSE)
74	6289313	KNOB (OUTPUT)
75	6291783	PUSH BUTTON (COUNTER RESET, PROGRAM, DRPS)
76	6291811	PUSH BUTTON ASSEMBLY (TAPE SELECTOR, DOLBY NR, MPX, INPUT)
77	6288175	KNOB ASSEMBLY-38MMD (RECORD LEVEL-R)
78	6288163	KNOB ASSEMBLY-36.5MMD (RECORD LEVEL-L)
79	6054381	EJECT BUTTON ASSEMBLY
80	6303115	SPRING FOR EJECT BUTTON
81	6768261	SWITCH HOLDER
82	6291801	SLIDE KNOB (TIMER)
83	6042804	BOTTOM COVER
84	6044231	TOP COVER (FS,BS,AU,W)
	6043506	TOP COVER (U,C)
85	6093352	CASSETTE DOOR ASSEMBLY
86	6714214	NYLON RIVET
87	6768213	LED FRAME ASSEMBLY
88	6768201	METER HOLDER
89	0626577	SPECIAL WASHER
90	7781582	FLAT SCREW-3MMDX10MM(BLACK)
91	0678312	DT SCREW-2.6MMDX12MM (BLACK)
92	7781581	BT FLAT SCREW-3MMDX10MM
93	8602408	DT FLAT SCREW-3MMDX8MM

SYMBOL-NO	P-NO	DESCRIPTION
		MISCELLANEOUS
94	7781731	BT BIND SCREW-4MMDX10MM (FS, BS, AU, W)
	8699610	BT BIND SCREW-4MMDX10MM (U,C)
95	7781587	BT FLAT SCREW-3MMDX16MM
96	5659502	LED HOLDER ASSEMBLY
97	6714211	NYLON RIVET - 3MMD
98	6768142	FLUORESCENT HOLDER
		CAPACITORS
C 1LR	0209010	CERAMIC DISC (RESISTOR SHAPE) 1000PF +-10%
C 3	0209022	CERAMIC DISC (RESISTOR SHAPE) 0.0022MF
C 4LR	0209006	CERAMIC DISC (RESISTOR SHAPE) 470PF+-10%
C 7LR	0209002	CERAMIC DISC (RESISTOR SHAPE) 220PF +-10%
C 9LR	0209006	CERAMIC DISC (RESISTOR SHAPE) 470PF+-10%
C 10LR	0209004	CERAMIC DISC (RESISTOR SHAPE) 330PF +-10%
C 17LR	0209008	CERAMIC DISC (RESISTOR SHAPE) 680PF +-10%
C 20LR	0209006	CERAMIC DISC (RESISTOR SHAPE) 470PF+-10%
C 32LR	0209010	CERAMIC DISC (RESISTOR SHAPE) 1000PF +-10%
C 35	0209021	CERAMIC DISC(RESISTOR SHAPE)1500PF+-10%
C 37	0209021	CERAMIC DISC(RESISTOR SHAPE)1500PF+-10%
C 38	0209025	CERAMIC DISC (RESISTOR SHAPE) 6800PF +-30%
⚠ CR101	0219902	CR PACK 120 OHM 0.0033MF 450V (U)
⚠ CR101	0219907	CR PACK (C)
		RESISTORS
MOD301	5068301	RESISTOR BLOCK RO718
MOD302	5068301	RESISTOR BLOCK RO718
R 58	0170474	FUSE RESISTOR 10 OHM+-5% 1/4W
RT 1LR	5007478	SEMI VARIABLE 20K OHM
RT 2LR	5007479	SEMI VARIABLE 50K OHM
RT 3LR	5007477	SEMI VARIABLE 10K OHM
RT 4LR	5007482	SEMI VARIABLE 250K OHM
RV 1	5000844	VARIABLE RESISTOR 20K OHM(A)
RV 2	5000616	VARIABLE RESISTOR 10K OHM(3B)
		SEMI-CONDUCTORS
D 1LR	5330573	DIODE 1S2473
D 2	5330573	DIODE 1S2473
D 3	5330573	DIODE 1S2473
D 5	5330573	DIODE 1S2473
D101-104	5331671	DIODE DS1350-FA3
D105	5330573	DIODE 1S2473
D106-108	5331671	DIODE DS1350-FA3
D109	5330131	DIODE 1S2076
D110	5330131	DIODE 1S2076
D111	5331671	DIODE DS1350-FA3
D201-204	5330573	DIODE 1S2473
D206	5330573	DIODE 1S2473
D207	5330573	DIODE 1S2473
D301-303	5330574	DIODE 1S2473
IC 1-4	5365491	IC HD14066BP
IC 5	5350601	IC NJM4558D
IC 6	5350603	IC NJM4558DMA
IC 7	5352831	IC MPC4557C
IC 8	5352033	IC BA335
IC 9	5352911	IC PST515
IC201	5359728	IC MPD554C-79
IC301	5359726	IC MPD554C-82
LED 1	5380481	LED SLR-53GC1
LED 2	5380482	LED SLR53URC1
LED 3	5380481	LED SLR-53GC1
LED 4	5380711	LED TLG123A
LED 5	5380247	LED GL-3PR2
MOD1LR	5378061	MODULE TA3011A
Q 1LR	5323031	TRANSISTOR 2SC1845EF
Q 2LR	5323031	TRANSISTOR 2SC1845EF
Q 3LR	5323014	TRANSISTOR 2SC2603FG
Q 4LR	5321296	TRANSISTOR 2SC1740LN-RS
Q 5LR	5321296	TRANSISTOR 2SC1740LN-RS
Q 7LR	5320069	TRANSISTOR 2SC458CD
Q 8LR	5321194	TRANSISTOR 2SD467BC
Q 9	5320069	TRANSISTOR 2SC458CD
Q 10	5320069	TRANSISTOR 2SC458CD
Q 11LR	5321194	TRANSISTOR 2SD467BC
Q 12LR	5320069	TRANSISTOR 2SC458CD
Q 13	5320069	TRANSISTOR 2SC458CD
Q 14	5320069	TRANSISTOR 2SC458CD
Q 15	5323014	TRANSISTOR 2SC2603FG
Q 16	5321212	TRANSISTOR SILICON 2SD468B
Q 17	5322651	TRANSISTOR 2SD667C
Q 18	5323041	TRANSISTOR 2SA992FE
Q 19	5320069	TRANSISTOR 2SC458CD
Q 23LR	5321296	TRANSISTOR 2SC1740LN-RS
Q 24LR	5320069	TRANSISTOR 2SC458CD
Q101	5320672	TRANSISTOR 2SC1061T
Q102	5321212	TRANSISTOR SILICON 2SD468B
Q103-105	5323071	TRANSISTOR 2SD947
Q201-206	5320069	TRANSISTOR 2SC458CD
Q301	5322451	TRANSISTOR 2SB642R
ZD 1	5330848	ZENER DIODE RD5.1EB2
ZD 2	5330311	ZENER DIODE SILICON HZ7A
ZD 3	5330848	ZENER DIODE RD5.1EB2
ZD101	5330542	ZENER DIODE HZ15-3
ZD102	5330542	ZENER DIODE HZ15-3
ZD103	5330552	ZENER DIODE HZ11B
ZD201	5330311	ZENER DIODE SILICON HZ7A
ZD301	5330848	ZENER DIODE RD5.1EB2

EXPLODED VIEW (Cabinet)



Note : Components marked without numbers in this drawing are not specified as replacement parts.

SYMBOL-NO	P-NO	DESCRIPTION
		COILS
L 1LR	5161666	DOLBY FILTER
L 2LR	5120564	TRAP COIL
L 3LR	5150571	CHOKE COIL 33MH
L 4LR	5120564	TRAP COIL
L 5LR	5150363	CHOKE COIL 2.2 MH
L 6LR	5120562	TRAP COIL
L 7	5260441	BIAS OSCILLATOR COIL
L201	5132115	CHOKE COIL
		MISCELLANEOUS
⚠	5746342	POWER CORD (BS)
⚠	5746443	POWER CORD (U,C)
⚠	5746571	POWER CORD (AU)
⚠	5746661	POWER CORD (W,FS)
CE301	5780631	CERAMIC OSCILLATOR 400KHZ
⚠ F 1	5720179	FUSE 1A (FS,BS,AU,W)
⚠ F 1	5721164	FUSE 1A (U,C)
⚠ F 2	5721061	FUSE 1.6A (FS,BS,AU,W)
⚠ F 2	5721161	FUSE 1.6A (U,C)
⚠ F101	5720178	FUSE 250MA (W)
IND301	5310641	FLUORESCENT DISPLAY

SYMBOL-NO	P-NO	DESCRIPTION
J 1LR	5679823	JACK (MIC)
J 2	5679823	JACK (HEADPHONE)
J 3LR	5676261	PIN JACK ASSEMBLY (LINE IN)
J 4LR	5676261	PIN JACK ASSEMBLY (LINE OUT)
J201	5677131	8P DIN SOCKET (REMOTE CONTROL)
PL 1	5762035	PILOT LAMP (CASSETTE ILLUMINATION)
PL 2	5762036	PILOT LAMP (POWER SWITCH ILLUMINATION)
⚠ S 1	5633842	PUSH SWITCH-POWER (U,C)
⚠ S 1	5633843	PUSH SWITCH-POWER (FS,BS,AU)
⚠ S 1	5633843	PUSH SWITCH-POWER (W)
S 2-8	5634432	PUSH SWITCH-INPUT/MPX/DOLBY B-C/DOLBY NR/ TAPE SELECTOR
⚠ S101	5605083	ROTARY SWITCH-VOLTAGE SELECTOR (W)
S201-207	5633771	PUSH SWITCH-REW, PLAY, FF, STOP, REC, PAUSE, REC MUTE
S208	5624253	SLIDE SWITCH-AUTO REW
S209	5624131	SLIDE SWITCH-TIMER
S301-303	5633351	PUSH SWITCH-COUNTER RESET, MEMORY, DRPS
MOD2	5310651	LED METER
		FOR ACCESSORIES
	7790311	HEAD CLEANING STICK
	5895501	PATCH CORD
⚠	5652291	SOCKET ADAPTER (W)

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